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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,391	04/25/2006	John Lambert	9052-224	2957

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EXAMINER	
NGUYEN, HUNG D	
ART UNIT	PAPER NUMBER
4118	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,391	LAMBERT ET AL.	
	Examiner	Art Unit	
	HUNG NGUYEN	4118	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07/15/2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/15/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to the amendment filed on 07/15/05. Claims 13 and14 have been canceled and claims 1-12 are presently pending in this application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "near zero voltage fluctuation 50" in Par. 38, Line15 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it should be in narrative form and generally limited to a single paragraph on a separate sheet and it should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. . Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: each part of the specification should be preceded by one of the headings set forth above.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. In claim 1, the phrase "some amount" recited in line 3 renders the claim indefinite for not clearly provide the metes and bound of such "amount". The phrase "some

amount of spatter is produced" should be changed to "some amounts of spatters are produced". The recitation of "conditions associated with said transition" recited at lines 5-6 also renders the claim indefinite because it is unclear to whether "conditions" implied the "first mode" and "second mode" of operations that were earlier recited. Such "conditions" must be clearly specified or defined.

6. In claim 4, the recitation of "a whole welding process" at line 3 renders the claim indefinite since it is unclear for what such welding "process" was. It is unclear to whether "method of welding" and "welding process" the same. Clarification is needed.

7. In claim 7, there is insufficient antecedent basis for "the detection" recited in line 4 in the claim.

8. In claim 10, the phrase "during welding" recited on line 3 should be changed to "during said welding process,".

9. In claim 12, the recitation of "during welding" in line 6 renders the claim indefinite because it is unclear to whether "welding" here (also noted at line 8) is the same as the "welding process" recited earlier at line 2 (in the preamble). It is suggested to replace "during welding" with "during said welding process" or followed "welding" with the word "process" for being consistent. In addition, as for the similar reason set forth in claim above, the recitation of "conditions associated with said transition" recited at line 9 renders the claim indefinite because it is unclear to whether "conditions" implied the "first mode" and "second mode" of operations that were earlier recited. Such "conditions" must be clearly specified or defined.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kramer (US Pat. 6,087,627).

12. Regarding claim 1, Kramers discloses a method a method of welding comprising: during welding, identifying a transition between a first mode of operation during which no spatter is produced Fig. 1 (Col. 3, Line 61 to Col. 4, Line 5), and a second mode of operation during which some amount of spatter is produced (Fig. 2) (Col. 3, Line 61 to Col. 4, Line 5) ; and adjusting a power supply voltage such that welding occurs under conditions associated with said transition (Col. 5, Lines 10-21); wherein identifying said transition comprises identifying near zero voltage fluctuations in said power supply voltage (Col. 11, Lines 9-14; the spatter events/number of spatters, can be controlled by the spatter voltage setup).

13. Regarding claims 2 and 8, Kramers discloses automatically adjusting said power supply voltage. (Col. 6, Lines 33-39).

14. Regarding claims 3 and 9, Kramers discloses adjusting the power supply voltage comprises continually adjusting said power supply voltage (Par. 15, Lines 55-63)..

15. Regarding claim 4, Kramers discloses a whole welding process under said conditions. (Col. 5, Lines 40-49).

16. Regarding claims 6 and 11, Kramers discloses a pulsed metal inert gas (MIG) welding (Fig. 20).

17. Regarding claim 7, Kramers discloses a method of welding comprising: during a welding process, identifying near zero voltage fluctuations in a power supply voltage (Par. 6, Line 23-24); and responsive to the detection of said fluctuations adjusting the power supply voltage (Col. 11, Line58-65).

18. Regarding claim 10, Kramers discloses adjusting the power supply voltage responsive to variations in weld set up conditions (Col. 17, Lines 14-24).

19. Regarding claim 12, Kramers discloses a welding apparatus for providing predetermined weld conditions during a welding process comprising: a main electrode for forming molten metal 20 (Fig. 2A) and an arc 40 (Fig. 2a) between the electrode and a work target 22 (Fig. 2A); a power supply 710 (Fig. 12) arranged to supply a power supply voltage to said electrode; means for identifying a transition, during welding, between a first mode of operation Fig. 1 (Col. 3, Line 61 to Col. 4, Line 5) and a second mode of operation (Fig. 2) (Col. 3, Line 61 to Col. 4, Line 5); and means for adjusting the power supply voltage whereby welding occurs under conditions associated with said transition (Par. 16, Lines 49-59); wherein said means for identifying a transition comprises means for identifying near zero voltage fluctuations in the power supply (Par. 18, Lines 54 to Col. 19, Line 3).

20.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (US Pat. 6,087,627) in view of Kawamoto et al. (JP 2000-669).

23. Kramer discloses all the claimed features as set forth above except for the power supply voltage signals are monitoring near zero during welding; and determining when an onset of near zero voltage fluctuations occurs, the onset indicating a transition from the first to the second mode of operation in the manner recited in claim 5.

24. Kawamoto et al. teaches the pulse output control method where the power supply voltage signals are monitoring near zero during welding, and determining when an onset of near zero voltage fluctuations occurs, the onset indicating a transition from the first to the second mode of operation, i.e., the welding voltage detecting element 7 (Fig. 1) detects the welding voltage (i.e., monitoring and detecting). The welding voltage is reduced for 1 impulse wave per 1 drop (Fig. 7, Par. 18-20, i.e., determining an onset of near zero voltage fluctuations occurred).

25. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Kramer the teaching of Kawamoto et al in order to monitor near zero power supply voltage signals during welding; and determining an

onset of near zero voltage fluctuations occurs for the purpose of controlling the spatter and stabilizing the welding process.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tong (US Pub. 2002/0030043) teaches a method and apparatus for controlling AC arc welding and welding power source apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 7:30AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/
Examiner, Art Unit 4118
/TU B HOANG/
Supervisory Patent Examiner, Art Unit 3742